

August 13, 2003

MODIS sensor Working Group (MsWG) Summary

Attendance: Alice Isaacman, Bill Barnes, Bob Barnes, Stuart Biggar, Vincent Chiang, Roger Drake, Gene Eplee, Wayne Esaias, Gene Feldman, Bruce Guenther, Chris Moeller, Junqiang Sun, Gary Toller, Jack Xiong, Eric Vermote, Robert Wolfe, Joe Esposito

Scheduled Items

Item 1 Instrument Status

- JX) Both Terra/MODIS and Aqua/MODIS are operating well.
 - TEB is running smoothly
 - RSB – m_1 has orbit-to-orbit variations
 - An Aqua demonstration maneuver (set up for inclination maneuver) was performed
- BG) The thrusters were fired to begin the proper attitude but the maneuver was not completed.

Item 2 Data Reprocess Issues

L1B and LUTs

- JX) Terra LUT deliveries are every other week. Due to orbit-to-orbit variation, the orbit-to-orbit calibrations are averaged for the delivery LUT.
 - Aqua is calibrated on alternate weeks. LUT deliveries are done once or twice a month.

RVS: Aqua is using a single static RVS; Terra is using a time dependent RVS. MCST will look at SD, SRCA, and Lunar data to check time dependence of Aqua RVS.

There will be an Oceans/MCST review, tentatively September 15. The STM will be at the end of October.

The Aqua reprocessing review will look at BB calibration, SWIR bands, etc.

The impact of the Terra DSM for the reprocessing will be investigated (e.g. the PC bands have larger variations at large angles).

Aqua BBR: Alice Isaacman will perform L1B code test and changes.

- CM) Do we place destriping in L1B? A meeting on this is needed. Limited tests are on going.

- BB) A presentation on the destriping algorithm at the STM is desirable including the radiometry results.

- EV) Can we apply the correction to Terra? (CM) It can be looked at.
 - We would like this for collect 5

- CM) If we find it is good for Terra then it should be good for Aqua

Item 3 Aqua BBR Issue

- RW) SWIR and 1km Bands are misaligned ~ 0.25 pixels in track and scan. One or two science product may have a problem due to this. Would like to look at this and try to fix. We have developed a schedule for delivering L1B with a BBR correction included to SDST and GDAAC by December 1, 2003.

Land and MCST to evaluate improvement to the products. Need tools to check the impact.

Approach: 1. Deliver algorithms to MCST; 2. MCST delivers new LIB(s) to SDST and GDAAC; 3. Science test and evaluation of impact; 4. Choose algorithm providing required improvement. No improvement then stop – look at other possible algorithms.

BG) Can this be done by changing the band strobing on-orbit?

RD) This is not feasible without major formatter re-programming for a minor improvement.

BB) If the change is very small then do not re-program the formatter.

JX) It would only cause changes in the scan direction and not the track.

RW) We did ground tests but not on-orbit.

EV) Would prefer the impact to be within the error bars.

BB) Anyone using the data would need products with and without the correction.

RW) Other missions use the resampled product. Recommend using thermal not VIS or SWIR – aggregation approach. An external review recommended to discuss the issue for impact.

Item 4 SD Calibration

Wayne Esaias – General discussion

We are trying to explain daily variations in the SD response. Some people are convinced that Earthshine causes the problems, others are not convinced.

Another possible cause is the thermal coefficients. The SWIR Objective Lens temperature is used.

We need to study the calibration location vs. time, examine thermal and geo-location effects, and perform comparisons with SeaWiFS and Aqua.

This topic will be addressed at the September 15 Oceans/MCST review.

Meet with Gene in roughly 2 weeks to review screen modeling

Screen is possibly not a problem.

Around the Table

Participant: CM) We are interested in the atmosphere correction on Terra and Aqua and have been comparing ER2 to Terra and Aqua in the LWIR CO₂ bands. The Terra/ER2 difference is a little larger than the Aqua/ER2 difference. Was the path outside the T/V chamber purged?

RD) The SpMA was purged with nitrogen. We followed the necessary procedure carefully.

Next MsWG meeting August 27, 2003